

CLAIMS:

1. A motor endshield assembly comprising:

an endshield comprising an outer surface and an inner surface, said outer surface including a plurality of fins;

a control assembly in contact with said inner surface; and

a power assembly connected to said control assembly.
2. A motor endshield assembly in accordance with Claim 1 wherein said inner surface further comprises a substantially flat raised area for contacting said control assembly.
3. A motor endshield assembly in accordance with Claim 1 wherein said control assembly comprises a control board and a plurality of power transistors connected to said control board.
4. A motor endshield assembly in accordance with Claim 3 wherein said control assembly further comprises a thermal pad between said power transistors and said endshield, said thermal pad for transferring heat from said transistors to said endshield and for electrically isolating said transistors.
5. A motor endshield assembly in accordance with Claim 1 wherein said endshield is configured as a heatsink.
6. A motor endshield assembly in accordance with Claim 3 wherein each said power transistor comprises a plurality of leads, each said lead extending substantially parallel to said control board.
7. A motor endshield assembly in accordance with Claim 6 wherein said transistors comprise a top surface, a bottom surface, a back, and a tab, said bottom

a second spacer extending between said control board and said endshield.

15. A motor endshield assembly in accordance with Claim 1 wherein said endshield further comprises a plurality of bolt openings that extend through said endshield for receiving a through bolt.

5 16. A motor endshield for an electronically commutated motor, said endshield comprising:

a shaft opening configured to receive a motor shaft;

an internal surface comprising a substantially flat raised area; and

an external surface comprising a plurality of recessed fins and a raised cylindrical portion surrounding said opening.

10 17. A motor endshield in accordance with Claim 16 wherein said recessed fins extend from said substantially flat raised portion.

18. A motor endshield in accordance with Claim 16 further comprising a cap plug opening extending through said endshield.

15 19. A motor endshield in accordance with Claim 16 further comprising a plurality of recessed openings extending through said endshield, each said recessed opening for receiving a through bolt.

20. A motor endshield in accordance with Claim 16 wherein said endshield further comprises aluminum, said endshield configured as a heatsink.

20 21. A method of assembling a motor endshield assembly for an electronically commutated motor, the motor endshield assembly including a control assembly, a power assembly, and an endshield with an inner surface and an outer surface, said method comprising the steps of:

surface contacting said control board, said tab extending from said back along said top surface.

8. A motor endshield assembly in accordance with Claim 7 wherein said power transistor further includes a front, said leads extend from said front of said power transistors at a position closer to said bottom surface than to said top surface.

9. A motor endshield in accordance with Claim 8 wherein said tabs comprise metal, said tabs contact a thermal pad which provides a thermal interface to said endshield.

10. A motor endshield assembly in accordance with Claim 2 wherein said recessed fins extend from said substantially flat raised portion.

11. A motor endshield assembly in accordance with Claim 1 further comprising a cap plug opening extending through said endshield and a cap plug covering said cap plug opening.

12. A motor endshield assembly in accordance with Claim 1 wherein said endshield further comprises aluminum.

13. A motor endshield assembly in accordance with Claim 3 wherein said power assembly comprises a power board and an insulator positioned between said power board and said control board.

14. A motor endshield assembly in accordance with Claim 13 further comprising:

a first spacer extending between said control board and said power assembly;

a plurality of clamp bars positioned between said power assembly and said power transistors, said first spacer and said clamp bars extending through said insulator; and